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Amendments to the Claims:

1. (Currently amended) An article, said article comprising:

a) a polymeric substrate comprising one of a polycarbonate, a polyimide, a polyethersulfone, a polynorborene, and combinations thereof; and

b) a at least one barrier layer disposed on at least one surface of said polymeric substrate, wherein said barrier layer comprises an inorganic material, and wherein said barrier layer has a thickness of less than 10,000 nm and is resistant to transmission of moisture and oxygen therethrough and has a water vapor transmission rate (WVTR) at 25°C and 100% relative humidity of less than about 2 g/m²-day and an oxygen transmission rate (OTR) at 25°C and 100% oxygen concentration of less than about 2 cc/m²-day.

2. (Currently amended) The article according to Claim 1, further including at least one layer, wherein said at least one layer is disposed adjacent to on said barrier layer opposite said polymeric substrate.

3. (Canceled)

4. (Currently amended) The article according to Claim 2-1, ~~wherein said at least one layer is further including~~ at least one layer interposed between said ~~at least one barrier layer~~ and said polymeric substrate.

5. (Currently amended) The article according to Claim 4, wherein said at least one layer comprises an adhesion layer for promoting adhesion of said ~~at least one barrier layer~~ to said polymeric substrate.

6. (Currently amended) The article according to Claim 5, wherein said adhesion layer comprises at least one of: a metal in elemental form, a carbide of said metal, an oxycarbide of said metal, an oxide of said metal, and a nitride of said metal, wherein said metal is one of silicon, aluminum, titanium, zirconium, hafnium, tantalum, gallium, germanium, zinc, tin, cadmium, tungsten, molybdenum, chromium, vanadium, and platinum, ~~amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina,~~

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~~zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; a polymer, an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.~~

7. (Original) The article according to Claim 2, wherein said at least one layer comprises at least one of an abrasion resistant layer, an ultraviolet radiation-absorbing layer, an infrared radiation-reflecting layer, and an electrically conducting layer.

8. (Currently amended) The article according to Claim 7, wherein said abrasion resistant layer comprises at least one of: a carbide of a metal, an oxycarbide of said metal, an oxide of said metal, and a nitride of said metal, wherein said metal is one of silicon, aluminum, titanium, zirconium, hafnium, tantalum, gallium, germanium, zinc, tin, cadmium, tungsten, molybdenum, chromium, vanadium, and platinum, ~~amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; polymerized monomers; polymerized oligomers; an organic polymer; an inorganic organic polymer; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.~~

9. (Original) The article according to Claim 7, wherein said ultraviolet radiation-absorbing layer comprises at least one of titanium oxide, zinc oxide, cerium oxide, a polymer, and combinations thereof.

10. (Original) The article according to Claim 7, wherein said infrared radiation-reflecting layer comprises at least one of silver, aluminum, indium, tin, indium tin oxide, cadmium stannate, zinc, and combinations thereof.

11. (Original) The article according to Claim 7, wherein said electrically conducting layer comprises at least one of silver, aluminum, indium, tin, indium tin oxide, cadmium stannate, zinc, and combinations thereof.

12. (Original) The article according to Claim 1, wherein said inorganic material comprises at least one of an oxide, a nitride, and a carbide of a metal, and combinations thereof.

13. (Original) The article according to Claim 12, wherein said metal is one of silicon, aluminum, zinc, indium, tin, a transition metal, and combinations thereof.

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14. (Original) The article according to Claim 13, wherein said transition metal is titanium.

15. (Original) The article according to Claim 13, wherein said inorganic material comprises titanium oxide.

16. (Original) The article according to Claim 13, wherein said inorganic material comprises silicon nitride.

17. (Currently amended) The article according to Claim 1, wherein said barrier layer has a thickness in a range from about 10 nm to about less than 10,000 nm.

18. (Original) The article according to Claim 17, wherein said barrier layer has a thickness in a range from about 20 nm to about 500 nm.

19. (Original) The article according to Claim 1, wherein said barrier layer has a water vapor transmission rate of up to about 0.2 g/m²-day.

20. (Original) The article according to Claim 1, wherein said barrier layer has an oxygen transmission rate at 25°C and 100% oxygen concentration of up to about 0.2 cc/m²-day.

21. (Original) The article according to Claim 1, wherein the article is one of a light emitting diode (LED), a liquid crystal display (LCD), a photovoltaic article, a flat panel display device, an electrochromic article, an organic integrated circuit, and an organic electroluminescent device (OLED).

22. (Currently amended) The article according to Claim 1, wherein said barrier layer is deposited on said polymeric substrate by: injecting at least one reagent into an expanding thermal plasma; reacting said at least one reagent in said expanding thermal plasma to form at least one deposition precursor; and depositing said at least one deposition precursor on said polymeric substrate at a rate of at least about 200 nm/min to form said barrier layer on said polymeric substrate.

23. (Canceled)

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24. (Currently amended) The article according to Claim 1, 23, wherein said polymeric material-substrate comprises one of a polycarbonate, a polyethylene terephthalate terephthalene, a polyethylene naphthalate naphthalene, a polyimide, a polyethersulfone, a polyacrylate, a polynorbornene, and combinations thereof.

25. (Canceled)

26. (Currently amended) A barrier layer deposited on a polymeric substrate, said polymeric substrate comprising one of a polycarbonate, a polyimide, a polyethersulfone, a polynorbornene, and combinations thereof, said barrier layer having a thickness of less than 10,000 nm and comprising at least one of a metal oxide, a metal nitride, a metal carbide, and combinations thereof, and wherein each of said metal nitride, said metal carbide, and said metal oxide contains at least one of silicon, aluminum, zinc, indium, tin, a transition metal, and combinations thereof, and wherein said barrier layer is resistant to transmission of moisture and oxygen therethrough and has a water vapor transmission rate (WVTR) at 25°C and 100% relative humidity of less than about 2 g/m²-day and an oxygen transmission rate (OTR) at 25°C and 100% oxygen concentration of less than about 2 cc/m²-day.

27. (Original) The barrier layer according to Claim 26, wherein said transition metal is titanium.

28. (Original) The barrier layer according to Claim 26, wherein said barrier layer comprises titanium oxide.

29. (Original) The barrier layer according to Claim 26, wherein said barrier layer comprises silicon nitride.

30. (Currently amended) The article according to Claim 26, wherein said barrier layer has a thickness in a range from about 10 nm to about less than 10,000 nm.

31. (Original) The article according to Claim 30, wherein said barrier layer has a thickness in a range from about 20 nm to about 500 nm.

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32. (Original) The barrier layer according to Claim 26, wherein said barrier layer has a water vapor transmission rate of up to about 0.2 g/m²-day.

33. (Original) The barrier layer according to Claim 26, wherein said barrier layer has an oxygen transmission rate at 25°C and 100% oxygen concentration of up to about 0.2 cc/m²-day.

34. (Currently amended) The barrier layer according to Claim 26, wherein said barrier layer is deposited on said polymeric substrate by: injecting a first reagent into an expanding thermal plasma, said first reagent comprising at least one of silicon, aluminum, zinc, indium, tin, a transition metal, and combinations thereof; injecting a second reagent into said expanding thermal plasma, the second reagent comprising at least one of oxygen, nitrogen, hydrogen, water, and ammonia; reacting said first reagent and said second reagent in said expanding thermal plasma to form at least one deposition precursor; and depositing said at least one deposition precursor on said polymeric substrate at a rate of at least about 200 nm/min to form said barrier layer on said polymeric substrate.

35. (Currently amended) The barrier layer according to Claim 34, wherein the at least one deposition precursor is deposited at a rate of at least about 600 nm/min to form the barrier layer on said polymeric substrate.

36. (Currently amended) The barrier layer according to Claim 34, wherein the at least one deposition precursor is deposited on said polymeric substrate at a rate of at least about 3,000 nm/min to form the barrier layer on said polymeric substrate.

37. (Currently amended) An article, said article comprising:

a) a polymeric substrate comprising one of a polycarbonate, a polyimide, a polyethersulfone, a polynorborene, and combinations thereof; and

b) a at least one barrier layer, wherein said at least one barrier layer has a thickness of less than 10,000 nm comprising and comprises at least one of a metal oxide, a metal nitride, a metal carbide, and combinations thereof, wherein each of said metal nitride, said metal carbide, and said metal oxide contains at least one of silicon, aluminum, zinc, indium, tin, a transition metal, and combinations thereof, and wherein said barrier layer is resistant to

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transmission of moisture and oxygen therethrough and has a water vapor transmission rate (WVTR) at 25°C and 100% relative humidity of less than about 2 g/m²-day and an oxygen transmission rate (OTR) at 25°C and 100% oxygen concentration of less than about 2 cc/m²-day.

38. (Currently amended) The article according to Claim 37, further including at least one layer, wherein said at least one layer is disposed adjacent to on said barrier layer opposite said polymeric substrate.

39. (Canceled)

40. (Currently amended) The article according to Claim ~~38~~37, wherein ~~said at least one layer is further including~~ at least one layer interposed between said ~~at least one barrier layer~~ and said polymeric substrate.

41. (Currently amended) The article according to Claim 40, wherein said at least one layer comprises an adhesion layer for promoting adhesion of said ~~at least one barrier layer~~ to said polymeric substrate.

42. (Currently amended) The article according to Claim 41, wherein said adhesion layer comprises at least one of: a metal in elemental form, a carbide of said metal, an oxycarbide of said metal, an oxide of said metal, and a nitride of said metal, wherein said metal is one of silicon, aluminum, titanium, zirconium, hafnium, tantalum, gallium, germanium, zinc, tin, cadmium, tungsten, molybdenum, chromium, vanadium, and platinum, ~~amorphous carbon, a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride, a silicone, a siloxane, a polymer, an epoxide, an acrylate, an acrylonitrile, a xylene, a styrene, and combinations thereof.~~

43. (Original) The article according to Claim 38, wherein said at least one layer comprises at least one of an abrasion resistant layer, an ultraviolet radiation-absorbing layer, infrared radiation-reflecting layer, and an electrically conducting layer.

44. (Currently amended) The article according to Claim 43, wherein said abrasion resistant layer comprises at least one of: a carbide of a metal, an oxycarbide of said metal, an oxide of said metal, and a nitride of said metal, wherein said metal is one of silicon, aluminum,

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titanium, zirconium, hafnium, tantalum, gallium, germanium, zinc, tin, cadmium, tungsten, m lybdenum, chromium, vanadium, and platinum, ~~amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; polymerized monomers; polymerized oligomers; an organic polymer; an inorganic organic polymer; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.~~

45. (Original) The article according to Claim 43, wherein said ultraviolet radiation-absorbing layer comprises at least one of titanium oxide, zinc oxide, cerium oxide, a polymer, and combinations thereof.

46. (Original) The article according to Claim 43, wherein said infrared radiation-reflecting layer comprises silver, aluminum, indium, tin, indium tin oxide, cadmium stannate, zinc, and combinations thereof.

47. (Original) The article according to Claim 43, wherein said electrically conducting layer comprises silver, aluminum, indium, tin, indium tin oxide, cadmium stannate, zinc, and combinations thereof.

48. (Original) The article according to Claim 37, wherein said transition metal is titanium.

49. (Original) The article according to Claim 48, wherein said barrier layer comprises titanium oxide.

50. (Original) The article according to Claim 37, wherein said barrier layer comprises silicon nitride.

51. (Currently amended) The article according to Claim 37, wherein said barrier layer has a thickness in a range from about 10 nm to about less than 10,000 nm.

52. (Original) The article according to Claim 51, wherein said barrier layer has a thickness in a range from about 20 nm to about 500 nm.

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53. (Original) The article according to Claim 37, wherein said barrier layer has a water vapor transmission rate of up to about $0.2 \text{ g/m}^2\text{-day}$.

54. (Original) The article according to Claim 37, wherein said barrier layer has an oxygen transmission rate at 25°C and 100% oxygen concentration of up to about $0.2 \text{ cc/m}^2\text{-day}$.

55. (Original) The article according to Claim 37, wherein the article is one of a light emitting diode (LED), a liquid crystal display (LCD), a photovoltaic article, a flat panel display device, an electrochromic article, an organic integrated circuit, and an organic electroluminescent device (OLED).

56. (Currently amended) The article according to Claim 37, wherein said barrier layer is deposited on said polymeric substrate by: injecting a first reagent into an expanding thermal plasma, said first reagent comprising at least one of silicon, aluminum, zinc, indium, tin, a transition metal, and combinations thereof; injecting a second reagent into said expanding thermal plasma, the second reagent comprising at least one of oxygen, nitrogen, and ammonia; reacting said first reagent and said second reagent in said expanding thermal plasma to form at least one deposition precursor; and depositing said at least one deposition precursor on said polymeric substrate at a rate of at least about 200 nm/min to form said barrier layer on said polymeric substrate.

57. (Canceled)

58. (Currently amended) The article according to Claim ~~57~~37, wherein said polymeric material-substrate comprises one of a polycarbonate, a polyethylene terephthalate ~~terephthalene~~, a polyethylene naphthalate ~~naphthalene~~, a polyimide, a polyethersulfone, a polyacrylate, a polynorbornene, and combinations thereof.

59. (Canceled)

60-103. (Withdrawn)

104. (New) The article according to Claim 6, wherein said adhesion layer comprises at least one of: amorphous carbon; a ceramic material, wherein said ceramic material comprises at

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least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.

105. (New) The article according to Claim 8, wherein said abrasion resistant layer comprises at least one of: amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; polymerized monomers; polymerized oligomers; an organic polymer; an inorganic-organic polymer; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.

106. (New) The article according to Claim 44, wherein said abrasion resistant layer comprises at least one of: amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; polymerized monomers; polymerized oligomers; an organic polymer; an inorganic-organic polymer; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.

107. (New) The article according to Claim 42, wherein said adhesion layer comprises at least one of: amorphous carbon; a ceramic material, wherein said ceramic material comprises at least one of glass, silica, alumina, zirconia, boron nitride, boron carbide, and boron carbonitride; a silicone; a siloxane; an epoxide; an acrylate; an acrylonitrile; a xylene; a styrene; and combinations thereof.